

**AMENDMENTS TO THE CLAIMS****Claims pending**

- At time of the Action: Claims 1-46.
- After this Response: Claims 1-5, 7-10, 13-15, 17-22, 24-26, 28-38 and 40-45.

**Canceled or Withdrawn claims:** 6, 11-12, 16, 23, 27, 39, and 46

**Amended claims:** 1, 7, 13, 17, 19, 24-25, 28, 40-41, and 43

**New claims:** None

1. **(Once Amended)** A method comprising:  
creating a device template using a template language written in XML  
syntax; and  
defining, from the device template, a device description for a self-  
describing network device; and  
automatically evaluating, via a computer software tool, whether the device  
description is well formed.

2. **(Original)** A method as recited in claim 1, wherein the template  
language is derived from XML schema.

3. **(Original)** A method as recited in claim 1, wherein the self-  
describing network device comprises a universal plug and play device.

4. **(Original)** A method as recited in claim 1, further comprising  
storing the device description on a computer-readable medium.

1  
2 5. (Original) A method as recited in claim 1, further comprising:  
3 creating a service template from a template language written in XML  
4 syntax; and

5 defining, from the service template, a service description for a service  
6 supported by the self-describing network device.

7  
8 6. (Canceled)

9  
10 7. (Once Amended) A method comprising:  
11 creating a service template from a template language written in XML  
12 syntax; and

13 defining, from the service template, a service description for a service  
14 supported by a self-describing network device; and

15 automatically evaluating, via a computer software tool, whether the service  
16 description is well formed.

17  
18 8. (Original) A method as recited in claim 7, wherein the template  
19 language is derived from XML schema.

20  
21 9. (Original) A method as recited in claim 7, wherein the self-  
22 describing network device comprises a universal plug and play device.

23  
24 10. (Original) A method as recited in claim 7, further comprising  
25 storing the service description on a computer-readable medium.

1  
2 11. (Canceled)

3  
4 12. (Canceled)

5  
6 13. (Once Amended) A method of describing a ~~universal plug-and-play~~  
7 a self-describing network device, comprising:

8 storing a description of the self-describing network device, the description  
9 comprising a set of elements to describe the self-describing network device and an  
10 XML-based syntax that structures the set of elements such that, when the data  
11 structure is read by a computing device, the computing device can learn about the  
12 self-describing network device; and

13 making the description available to the computing device; and

14 wherein the set of elements includes at least one of:

15 a first element to identify one or more versions of a template language;

16 a second element to identify the self-describing network device; and

17 a third element to specify a base universal resource locator (URL).

18  
19 14. (Original) A method as recited in claim 13, wherein the storing  
20 comprises storing the description at the self-describing network device.

21  
22 15. (Original) A method as recited in claim 13, wherein the self-  
23 describing network device comprises a universal plug and play device.

24  
25 16. (Canceled)

1  
2       **17. (Once Amended)** A method as recited in claim ~~16~~ 13, wherein the  
3 second element includes at least one of:  
4       a first subelement to specify a type of self-describing network device;  
5       a second subelement to identify a user;  
6       a third subelement to identify a manufacturer;  
7       a fourth subelement to specify a URL of a website for the manufacturer;  
8       a fifth subelement to provide a word description of the self-describing  
9 network device for the user;  
10       a sixth subelement to specify a model name of the self-describing network  
11 device;  
12       a seventh subelement to specify a model number of the self-describing  
13 network device;  
14       an eighth subelement to specify a URL of a website for the self-describing  
15 network device;  
16       a ninth subelement to specify a URL of a website for a presentation hosted  
17 by the self-describing network device;  
18       a tenth subelement to specify a serial number of the self-describing network  
19 device;  
20       an eleventh subelement to specify a universal device name of the self-  
21 describing network device;  
22       a twelfth subelement to specify a universal product code of the self-  
23 describing network device;  
24       a thirteenth subelement to specify any icons associated with the self-  
25 describing network device;

1 a fourteenth subelement to identify any of one or more services supported  
2 by the self-describing network device; and

3 a fifteenth subelement to identify any of one or more devices embedded  
4 within the self-describing network device.

5  
6 18. (Original) A method as recited in claim 13, further comprising  
7 storing a set of elements to describe at least one service supported by the self-  
8 describing network device.

9  
10 19. (Once Amended) A method of describing a self-describing network  
11 device, comprising: as recited in claim 18;

12 storing a description of the self-describing network device, the description  
13 comprising a set of elements to describe the self-describing network device and an  
14 XML-based syntax that structures the set of elements such that, when the data  
15 structure is read by a computing device, the computing device can learn about the  
16 self-describing network device;

17 making the description available to the computing device; and

18 storing a set of elements to describe at least one service supported by the  
19 self-describing network device, wherein the set of elements to describe the service  
20 includes at least one of:

21 a first element to identify any of one or more actions performed by the  
22 service; and

23 a second element to identify any of one or more state variables in the  
24 service.

25

1           20. (Original) A method as recited in claim 19, wherein the first  
2 element includes at least one subelement for each corresponding action, the  
3 subelement containing a name string to hold a name of the action and an argument  
4 list to hold parameters of the action.

5  
6           21. (Original) A method as recited in claim 19, wherein the second  
7 element includes at least one of:

- 8           a first subelement to identify a name of a state variable;  
9           a second subelement to specify a data type of the state variable;  
10          a third subelement to specify a default value of the state variable;  
11          a fourth subelement to enumerate legal string values; and  
12          a fifth subelement to define bounds of legal numeric values.

13  
14          22. (Original) A method as recited in claim 13, wherein the storing  
15 comprises storing the description at the self-describing network device, the  
16 method further comprising storing a set of elements to describe at least one service  
17 supported by the self-describing network device at a location remote from the self-  
18 describing network device.

19  
20          23. (Canceled)

21  
22          24. (Once Amended) A data structure stored on a computer-readable  
23 medium, the data structure being constructed according to an XML-based template  
24 language, the data structure comprising: stored as recited in claim 23;  
25 a set of elements to describe a self-describing network device; and

1 an XML-based syntax that organizes and structures the set of elements such  
2 that, when the data structure is read by a computing device, the computing device  
3 can learn about the self-describing network device;

4 wherein the set of elements requires:

5 a first element to identify one or more versions of the template language;

6 and

7 a second element to identify the self-describing network device.

8  
9 25. (Once Amended) A data structure stored on a computer-readable  
10 medium, the data structure being constructed according to an XML-based template  
11 language, the data structure comprising; stored as recited in claim 23;

12 a set of elements to describe a self-describing network device; and

13 an XML-based syntax that organizes and structures the set of elements such  
14 that, when the data structure is read by a computing device, the computing device  
15 can learn about the self-describing network device;

16 wherein the set of elements includes at least one of:

17 a first element to identify one or more versions of the template language;

18 a second element to identify the self-describing network device; and

19 a third element to specify a base universal resource locator (URL).

20  
21 26. (Original) A data structure stored as recited in claim 25, wherein the  
22 second element includes at least one of:

23 a first subelement to specify a type of self-describing network device;

24 a second subelement to identify a user;

25 a third subelement to identify a manufacturer;

1 a fourth subelement to specify a URL of a website for the manufacturer;  
2 a fifth subelement to provide a word description of the self-describing  
3 network device for the user;  
4 a sixth subelement to specify a model name of the self-describing network  
5 device;  
6 a seventh subelement to specify a model number of the self-describing  
7 network device;  
8 an eighth subelement to specify a URL of a website for the self-describing  
9 network device;  
10 a ninth subelement to specify a URL of a website for a presentation hosted  
11 by the self-describing network device;  
12 a tenth subelement to specify a serial number of the self-describing network  
13 device;  
14 an eleventh subelement to specify a universal device name of the self-  
15 describing network device;  
16 a twelfth subelement to specify a universal product code of the self-  
17 describing network device;  
18 a thirteenth subelement to specify any icons associated with the self-  
19 describing network device;  
20 a fourteenth subelement to identify any of one or more services supported  
21 by the self-describing network device; and  
22 a fifteenth subelement to identify any of one or more devices embedded  
23 within the self-describing network device.

24  
25 27. (Canceled)



1  
2 28. (Once Amended) A data structure stored on a computer-readable  
3 medium, the data structure being constructed according to an XML-based template  
4 language, the data structure comprising: ~~stored as recited in claim 27,~~

5 a set of elements to describe a service supported by a self-describing  
6 network device; and

7 an XML-based syntax that organizes and structures the set of elements such  
8 that, when the data structure is read by a computing device, the computing device  
9 can learn about the service supported by the self-describing network device;

10 wherein the set of elements includes at least one of:

11 a first element to identify any of one or more actions performed by the  
12 service; and

13 a second element to identify any of one or more state variables in the  
14 service.

15  
16 29. (Original) A data structure stored as recited in claim 28, wherein the  
17 first element includes at least one subelement for each corresponding action, the  
18 subelement containing at least one of a name string to hold a name of the action,  
19 an argument list to hold parameters of the action, and a data type of the  
20 parameters.

21  
22 30. (Original) A data structure stored as recited in claim 28, wherein the  
23 second element includes at least one of:

24 a first subelement to identify a name of a state variable;

25 a second subelement to specify a data type of the state variable;

1 a third subelement to specify a default value of the state variable;  
2 a fourth subelement to enumerate legal string values; and  
3 a fifth subelement to define bounds of legal numeric values.

4  
5 31. (Allowed) One or more computer-readable media, comprising stored  
6 thereon:

7 a first set of elements to describe a self-describing network device, the first  
8 set of elements being written in an XML syntax;

9 a second set of elements to describe a service supported by the self-  
10 describing network device, the second set of elements being written in an XML  
11 syntax; and

12 a code segment that, when executed, returns the first set of elements and at  
13 least a reference to the second set of elements to an entity requesting a description  
14 of the self-describing network device.

15  
16 32. (Allowed) One or more computer-readable media as recited in claim  
17 31, wherein the first set of elements are stored on a computer-readable media  
18 located at the self-describing network device and the second set of elements are  
19 stored on a separate computer-readable medium located remotely from the self-  
20 describing network device, but accessible via a network.

21  
22 33. (Allowed) One or more computer-readable media as recited in claim  
23 31, wherein the first set of elements includes at least one of:

24 a first element to identify one or more versions of the template language;

25 a second element to identify the self-describing network device; and

1 a third element to specify a base universal resource locator (URL).

2  
3 34. (Allowed) One or more computer-readable media as recited in claim  
4 31, wherein the second element of the first set of elements includes at least one of:

5 a first subelement to specify a type of self-describing network device;

6 a second subelement to identify a user;

7 a third subelement to identify a manufacturer;

8 a fourth subelement to specify a URL of a website for the manufacturer;

9 a fifth subelement to provide a word description of the self-describing  
10 network device for the user;

11 a sixth subelement to specify a model name of the self-describing network  
12 device;

13 a seventh subelement to specify a model number of the self-describing  
14 network device;

15 an eighth subelement to specify a URL of a website for the self-describing  
16 network device;

17 a ninth subelement to specify a URL of a website for a presentation hosted  
18 by the self-describing network device;

19 a tenth subelement to specify a serial number of the self-describing network  
20 device;

21 an eleventh subelement to specify a universal device name of the self-  
22 describing network device;

23 a twelfth subelement to specify a universal product code of the self-  
24 describing network device;

1 a thirteenth subelement to specify any icons associated with the self-  
2 describing network device;

3 a fourteenth subelement to identify any of one or more services supported  
4 by the self-describing network device; and

5 a fifteenth subelement to identify any of one or more devices embedded  
6 within the self-describing network device.

7  
8 35. (Allowed) One or more computer-readable media as recited in claim  
9 31, wherein the second set of elements includes at least one of:

10 a first element to identify any of one or more actions performed by the  
11 service; and

12 a second element to identify any of one or more state variables in the  
13 service.

14  
15 36. (Allowed) One or more computer-readable media as recited in claim  
16 35, wherein the first element of the second set of elements includes at least one  
17 subelement for each corresponding action, the subelement containing a name  
18 string to hold a name of the action and an argument list to hold parameters of the  
19 action.

20  
21 37. (Allowed) One or more computer-readable media as recited in claim  
22 35, wherein the second element of the second set of elements includes at least one  
23 of:

24 a first subelement to identify a name of a state variable;

25 a second subelement to specify a data type of the state variable;

a third subelement to specify a default value of the state variable;  
a fourth subelement to enumerate legal string values; and  
a fifth subelement to define bounds of legal numeric values.

38. (Allowed) One or more computer-readable media as recited in claim 31, wherein the code segment is configured to respond to an HTTP GET request by returning the description in a body of an HTTP response.

39. (Canceled)

40. (Once Amended) A self-describing network device as recited in claim 39 41, wherein the description data comprises a first set of elements a first set of elements to describe the self-describing network device and a second set of elements to describe a service supported by the self-describing network device.

41. (Once Amended) A self-describing network device comprising: as recited in claim 39,

a memory;

a description of the self-describing network device stored in the memory,  
the description comprising a set of elements written in an XML syntax to describe  
the self-describing network device; and

a processor coupled to the memory to submit the description to a remote  
entity on a network;

wherein the set of elements comprises at least one of:

a first element to identify one or more versions of the a template language;

1 a second element to identify the self-describing network device; and  
2 a third element to specify a base universal resource locator (URL).

3  
4 42. (Original) A self-describing network device as recited in claim 41,  
5 wherein the second element includes at least one of:

6 a first subelement to specify a type of self-describing network device;  
7 a second subelement to identify a user;  
8 a third subelement to identify a manufacturer;  
9 a fourth subelement to specify a URL of a website for the manufacturer;  
10 a fifth subelement to provide a word description of the self-describing  
11 network device for the user;  
12 a sixth subelement to specify a model name of the self-describing network  
13 device;  
14 a seventh subelement to specify a model number of the self-describing  
15 network device;  
16 an eighth subelement to specify a URL of a website for the self-describing  
17 network device;  
18 a ninth subelement to specify a URL of a website for a presentation hosted  
19 by the self-describing network device;  
20 a tenth subelement to specify a serial number of the self-describing network  
21 device;  
22 an eleventh subelement to specify a universal device name of the self-  
23 describing network device;  
24 a twelfth subelement to specify a universal product code of the self-  
25 describing network device;

1 a thirteenth subelement to specify any icons associated with the self-  
2 describing network device;

3 a fourteenth subelement to identify any of one or more services supported  
4 by the self-describing network device; and

5 a fifteenth subelement to identify any of one or more devices embedded  
6 within the self-describing network device.

7  
8 43. (Once Amended) A self-describing network device comprising: as  
9 recited in claim 39;

10 a memory;

11 a description of the self-describing network device stored in the memory.  
12 the description comprising a set of elements written in an XML syntax to describe  
13 the self-describing network device; and

14 a processor coupled to the memory to submit the description to a remote  
15 entity on a network;

16 wherein the set of elements includes at least one of:

17 a first element to identify any of one or more actions performed by a  
18 service supported by the self-describing network device; and

19 a second element to identify any of one or more state variables in the  
20 service.

21  
22 44. (Original) A self-describing network device as recited in claim 43,  
23 wherein the first element includes at least one subelement for each corresponding  
24 action, the subelement containing a name string to hold a name of the action and  
25 an argument list to hold parameters of the action.

1  
2 45. (Original) A self-describing network device as recited in claim 43,  
3 wherein the second element includes at least one of:

4 a first subelement to identify a name of a state variable;

5 a second subelement to specify a data type of the state variable;

6 a third subelement to specify a default value of the state variable;

7 a fourth subelement to enumerate legal string values; and

8 a fifth subelement to define bounds of legal numeric values.

9  
10 46. (Canceled)